

Box Beam - Bridge
Approach Section Type 2
(See Road Plans and
Detailed Dwg.
No. 606-53)

NOTE: Fabricate rail tubing on a curve when face of rail
radius is 183 meters or less.

NOTE: Attach panel lengths of tube members continuously
to a minimum of two posts (except at abutments
with expansion joints).

NOTE: Place rail posts as shown in details, perpendicular
to adjacent roadway grade and vertical in relation
to roadway cross slopes. Place posts in proper
alignment prior to placement of curb.

NOTE: Locate the splice on either side of post.
Tube shop splices are not allowed.

NOTE: Show vent and pickup holes in rails and sleeves on Fabricator's shop drawings.
Place vent holes on the underside of the rail members as installed.

NOTE: Place expansion splice in rail at either the first or second post either
side of expansion joint.

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STATE	PROJECT NUMBER	SHEET NO.
MONTANA		

NOTES

GALVANIZING: Galvanize all bolts, nuts, washers and pipe sleeves
in accordance with AASHTO M 232M.

REFLECTORS: Place a white reflector on top of the top tube rail at
9.15 meter spacing between ends of rail. Mount reflectors with
reflectorized face toward oncoming traffic. See Dtl. Dwg. No. 606-60
for reflector detail. Mount the reflector on the tube rail with an approved
adhesive. Include the cost of reflector in the unit price bid for Bridge
Rail ~ W830.

PAYMENT: Payment for Bridge Rail ~ W830 per linear meter includes
compensation for the cost of Class SD concrete in the curb and for all
resources necessary to complete the work. See the General Layout for the
number of linear meters for payment of Bridge Rail ~ W830. Use rail
post plates and base plates conforming to AASHTO M 270M Grade 250T3.
Use AASHTO M 270M Grade 250 for all other plates.

ERECTION: Place rail posts as shown in details, perpendicular
to adjacent roadway grade and vertical in relation to roadway cross slopes.
Place posts in proper alignment prior to placement of curb.

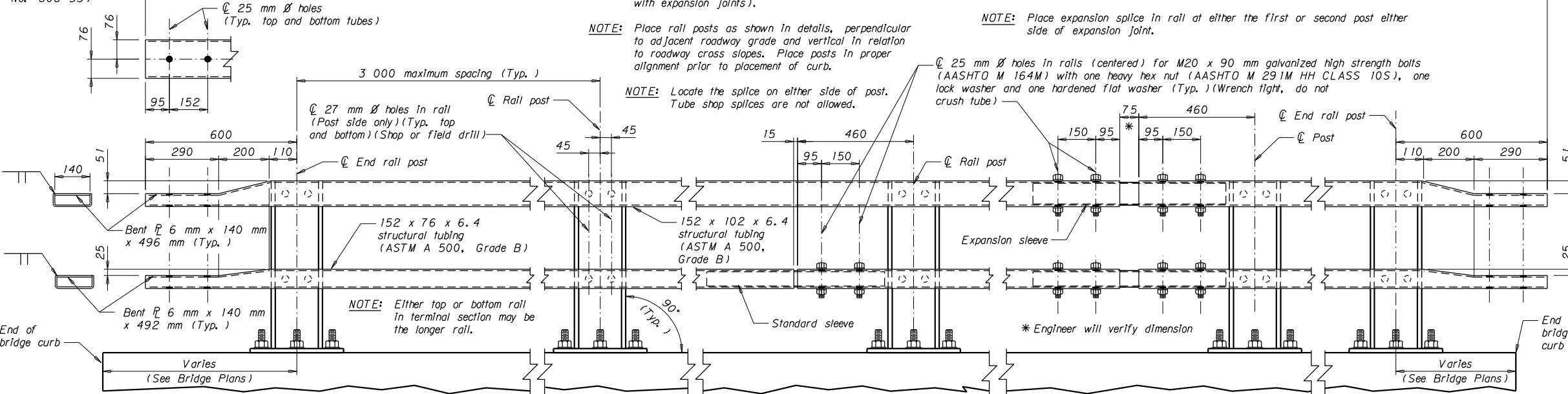
PAINTING: Paint all posts, structural tubing and plates (except as
noted) in accordance with the Standard Specifications. Galvanizing
the posts, structural tubing and plates in accordance with AASHTO
M 111M will be allowed.

EXCEPTIONS: Use details shown on this drawing only as they apply
to the project. Anchorage details may vary. Refer to other drawings
for variations in these details.

DIMENSIONS: All dimensions are in millimeters except as noted.

FABRICATION: For the purposes of fabrication, this rail system is
considered an ancillary item. The requirements of subsection 1.3.6 of
AASHTO/AWS D1.5 apply.

RAIL WEIGHT: For informational purposes only, the rail weight is
approximately 1.80 kN/m for the curb and 0.73 kN/m for the rail.



ELEVATION AT BOX BEAM GUARDRAIL CONNECTION

NOTE: Do not provide a tube splice in first panel unless it crosses an expansion joint.

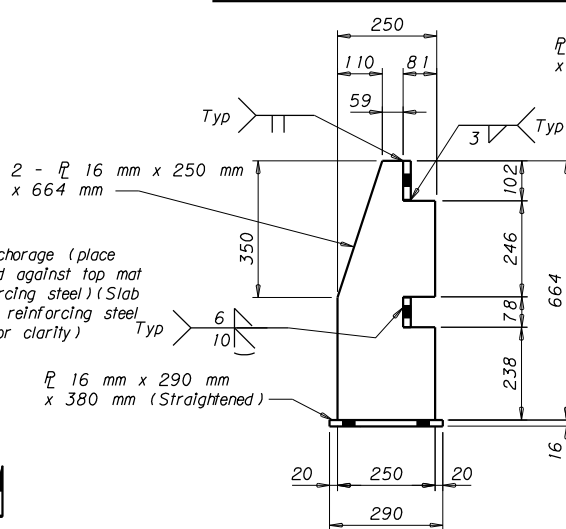
STANDARD SPLICE

(Top or bottom rail)

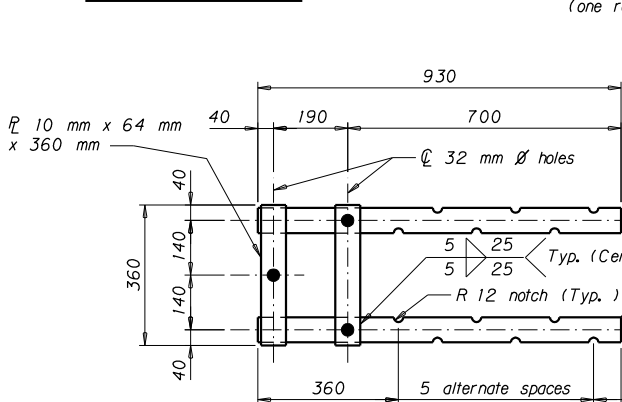
EXPANSION SPLICE

(Top and bottom rail)

INSIDE ELEVATION OF RAIL



POST DETAILS



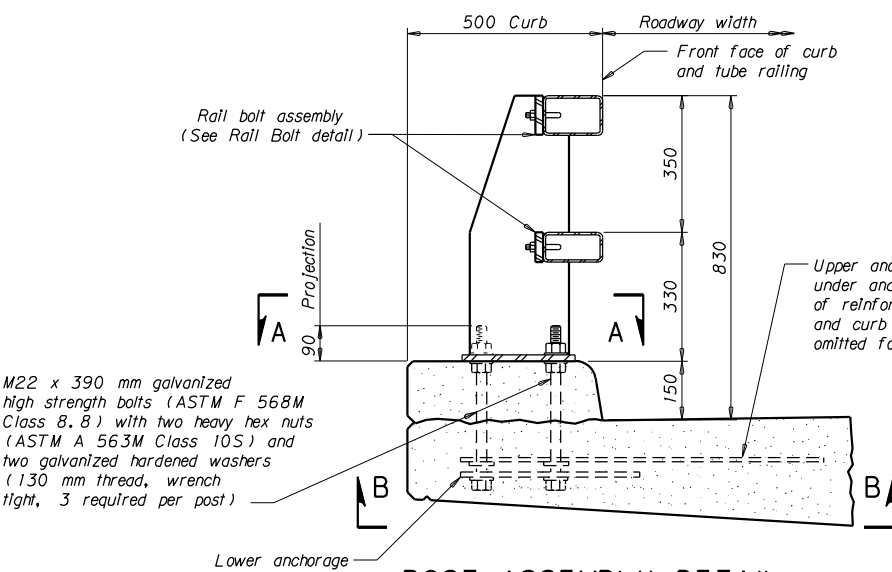
VIEW B-B

(Showing upper anchorage)
(Do not galvanize)
(Anchor bolts not shown)

VIEW B-B

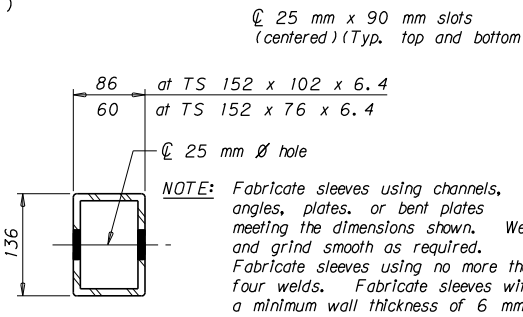
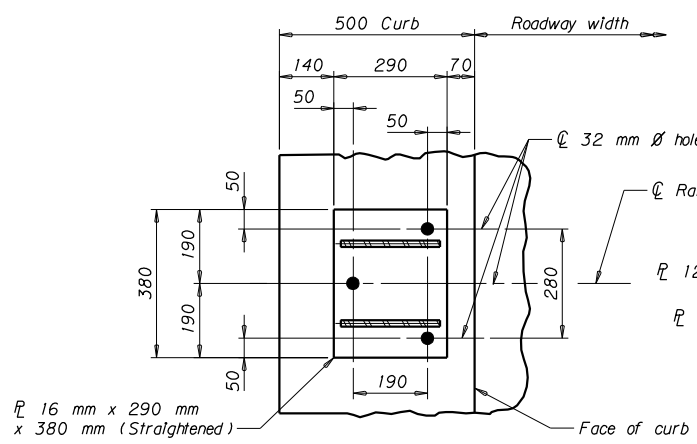
(Showing lower anchorage)
(Do not galvanize)
(Anchor bolts not shown)

POST ASSEMBLY DETAIL

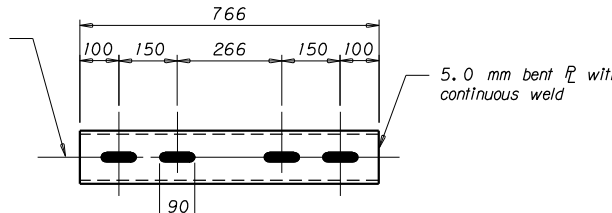


SECTION A-A

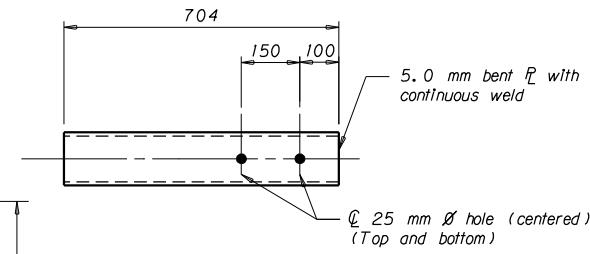
(Anchor bolts not shown)



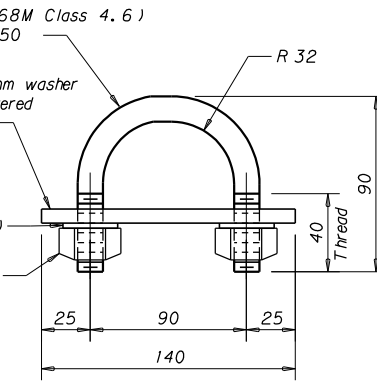
SLEEVE FABRICATION OPTIONS



EXPANSION SLEEVE DETAIL



STANDARD SLEEVE DETAIL



RAIL BOLT DETAIL



STANDARD BRIDGE RAIL TYPE W830

No Scale

DRAWN	9-18-03	L. M. S.
CHECKED	10-10-03	M. L. R.
APPROVED	10-25-04	K. M. B.
REVISED	8-25-05	D. F. J.
REVISED	4-27-06	D. F. J.
REVISED	3-14-08	T. J. B.
REVISED	2-1-11	D. F. J.

STD REF: MW830211. STD DRAWING NO. MSBR-W830